

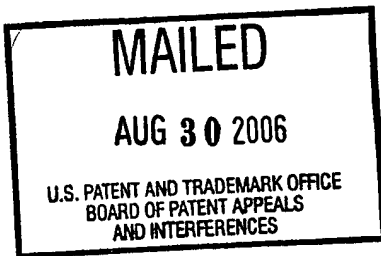
The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte THOMAS HACKL

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Appeal No. 2006-1913  
Application 10/631,004

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HEARD: August 8, 2006

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Before FRANKFORT, OWENS and BAHR, Administrative Patent Judges.  
FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 11, all of the claims pending in the application.

Appellant's invention relates to a system and method for controlling brakes of a commercial vehicle. The system includes an adaptive cruise control (ACC) system including a device for the adaptive regulation of distance and/or driving speed which modulates an urgency signal based upon a hazard variable, e.g., the relative speed of and/or distance to a vehicle traveling in front of the

commercial vehicle, and an electronically controlled brake system that is designed to distribute a desired amount of braking force to a friction brake system and an additional active retarding brake, whereby the electronically controlled brake system is further designed such that the distribution of the desired braking force to the friction brake system and the active retarding brake is also based upon the urgency signal. More specifically, the electronically controlled brake system is designed such that at high urgency values, the desired braking force is distributed to the friction brake and the active retarding brake to achieve the fastest possible application of the brakes, while at low urgency values, the retarding brake is used to its maximum extent in order to reduce wear and tear on the friction brake. Independent claims 1 and 9 are representative of the subject matter on appeal and a copy of those claims can be found attached to appellant's brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Chakraborty et al. (Chakraborty)	5,839,534	Nov. 24, 1998
Wieder et al. (Wieder)	5,864,285	Jan. 26, 1999
Seto	2002/0152015	Oct. 17, 2002

Claims 1 through 6 and 9 through 11 stand rejected under

35 U.S.C. § 103(a) as being unpatentable over Seto in view Chakraborty.

Claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Seto in view Chakraborty and Wieder.

Rather than reiterate the examiner's commentary regarding the above-noted obviousness rejections and the conflicting viewpoints advanced by the examiner and appellant regarding the rejections, we make reference to the final rejection (mailed March 10, 2005) and the examiner's answer (mailed December 19, 2005) for the reasoning in support of the rejections, and to appellant's brief (filed October 11, 2005) and reply brief (filed February 14, 2006) for the arguments thereagainst.

#### OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we have made the determination that the examiner's above-noted rejections under 35 U.S.C. § 103(a) will be sustained. Our reasons follow.

The examiner's basic position concerning the combination of Seto and Chakraborty is that Seto discloses a system capable of use on a commercial vehicle and includes at least one of an adaptive

distance regulation and driving speed device (Figure 1) which modulates an urgency signal based upon a hazard variable (paragraphs 31, 32); and an electronically controlled brake system designed to distribute a desired amount of braking force to a friction brake system and a retarding brake system (6), whereby the electronically controlled brake system distributes the desired braking force to the friction brake system and the retarding brake based upon the urgency signal (paragraph 31).

What the examiner finds lacking in Seto is a teaching of an "active retarding brake," as set forth in the claims on appeal. To account for that deficiency, the examiner looks to Chakraborty for a teaching of the use of a retarder in a similar system to that of Seto, wherein the examiner finds a teaching that electric or hydraulic retarders are capable of being substituted for an engine brake (col. 7, lines 28-31). From the combined teachings of the applied references, the examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of appellant's invention "to have substituted the retarder of Seto with an active retarder as taught by Chakraborty merely as an alternative means of providing a retarding braking force to the vehicle, and also to provide a retard [sic] a vehicle in which engine braking does not provide a sufficient retarding force" (final rejection, page 3).

After a consideration of the collective teachings of the applied patents, we must agree with the examiner that the system and method as broadly claimed in the present application would have been obvious to one of ordinary skill in the art at the time of appellant's invention.

The claims on appeal are directed to a system and method for controlling the brakes of a "commercial vehicle." However, we find nothing in appellant's specification or claims which indicates exactly what constitutes a "commercial vehicle." In our view, any vehicle used for a commercial purpose would arguably be a "commercial vehicle," e.g., an automobile used as a taxi cab is a commercial vehicle. Thus, we agree with the examiner that the automotive vehicle of Seto would fall within the broad classification of "commercial vehicle" when used for a commercial purpose and that Seto therefore broadly discloses a system and method for controlling the brakes of a commercial vehicle.

As for the examiner's combination of Seto and Chakraborty, we must agree with the examiner that the disclosure at column 7, lines 24-31, of Chakraborty would appear to provide ample suggestion or motivation for substituting one known form of engine brake or retarder for another to achieve the type of retarding braking force desired in Seto. Thus, to the extent that Seto's system would not be viewed as an "active retarding brake," we consider that it would

have been obvious to one of ordinary skill in the art at the time of appellant's invention to have substituted an active retarder as taught by Chakraborty for the retarder of Seto merely as an alternative means of providing the necessary retarding braking force to the vehicle, which braking force is separate from the friction braking force that may be applied to the vehicle. Aside from the bare assertion that one skilled in the art would not combine Seto and Chakraborty in the manner urged by the examiner merely because the retarders and engine brakes of Chakraborty are different from the engine torque control of Seto, we find nothing from appellant explaining why the examiner's combination would not have been obvious to one of ordinary skill in the art at the time of the present invention.

As for appellant's argument that Seto does not disclose an electronically controlled braking system for distributing a desired amount of braking force to a friction brake and an additional active retarding brake, it is our view that the combination of Seto and Chakraborty discussed above would have been suggestive of such a system. More specifically, the portion of the controller seen in Figure 4 of Seto broadly constitutes a means for electronically controlling the braking system of the vehicle and for distributing a desired amount of braking force to a friction brake (via the brake-fluid pressure command value) and an additional retarding brake,

which following the teachings of Chakraborty would be an active retarding brake.

Regarding the limitation in the claims on appeal that the electronically controlled brake system distributes the desired amount of braking force to the friction brake system and the retarding brake based upon the urgency signal, we find that the disclosure in Seto, e.g., paragraphs 31, 32 and 57-59, would have been suggestive of such operation. More specifically, the electronically controlled brake system of Seto as modified above is designed such that at a high urgency value (i.e., during detection of a preceding vehicle), the desired braking force is distributed to the friction brake and the retarding brake to achieve the necessary calculated vehicle speed, while at a low urgency value (i.e., when no preceding vehicle is detected), the retarding brake is used alone to provide the braking force and achieve the desired vehicle speed, thereby allowing reduced wear and tear on the friction brakes. Thus, contrary to appellant's arguments, Seto does broadly use a hazard based urgency signal to influence the brake blending of an electronically controlled brake system.

While we understand that Seto apparently has a system and method which performs the brake blending when a preceding vehicle is present according to a fixed scheme, and that appellant's system and method is intended to vary the brake blending dependent upon the

urgency signal so that both the friction brakes and the retarding brake could be applied at the same instant in time during a high urgency situation to provide maximum braking force immediately, we find nothing in the broad language of the claims on appeal which requires this specific type of simultaneous operation. Nor do we find in the claims on appeal any specific recitation of a separate adaptive cruise control system and a separate electronically controlled brake system which communicate in the manner shown in appellant's lone drawing figure to achieve the desired brake blending.

In light of the foregoing, we will sustain the examiner's rejection of claims 1 through 6 and 9 through 11 under 35 U.S.C. § 103(a) as being unpatentable over Seto in view Chakraborty.

The next rejection for review is that of claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Seto in view Chakraborty and Wieder. These claims set forth use of a CAN (controller area network) data bus for transmitting the urgency signal to the electronically controlled brake system. Both Chakraborty and Wieder disclose the use of a CAN data bus to communicate information and data between components of an automatic braking control system for a vehicle. As the examiner has noted, such a data bus allows the use of less wiring and facilitates faster communication of information/data between the various components of



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a control network. Thus, we conclude that it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to have utilized a CAN data bus in the control system resulting from the combination of Seto and Chakraborty so as to achieve the self-evident benefits of such a known arrangement as generally understood from the teachings of Chakraborty and Wieder. Accordingly, the rejection of claims 7 and 8 under 35 U.S.C. § 103(a) will also be sustained.

Since both of the obviousness rejections before us on appeal have been sustained, it follows that the decision of the examiner in rejecting claims 1 through 11 of the present application is affirmed.

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No time period for taking any subsequent action in connection  
with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED

*Charles E. Frankfort*

CHARLES E. FRANKFORT )  
Administrative Patent Judge )

*Terry J. Owens*

TERRY J. OWENS )  
Administrative Patent Judge )

*Jennifer D. Bahr*

JENNIFER D. BAHR )  
Administrative Patent Judge )

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CROWELL & MORING LLP  
INTELLECTUAL PROPERTY GROUP  
P.O. BOX 14300  
WASHINGTON, DC 20044-4300